

Classification of the Genus *Pidonia* Mulsant from Korea (Coleoptera: Cerambycidae)

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Abstract The present work revises all the known species of the longicorn beetle genus *Pidonia* in Korea. Of the total of 13 species arranged herein, 6 species, viz. *alpina*, *elegans*, *koreana*, *longipennis*, *seungmoi*, and *weolseoe* spp. nov., are described as new to science, and *Pidonia quelpartensis* Hayashi, 1983, is treated as a junior synonym of *P. amurensis* (Pic, 1900).

Keys are provided for each species. All available information on host plants and visiting flowers are also given.

Key words systematics, Coleoptera, Cerambycidae, *Pidonia*, Korea

INTRODUCTION

Longicorn beetles belonging to the genus *Pidonia* are generally of small size and one of the comparatively small groups among the tribe Stenocorini. They are all phytophagous and primarily wood borers in the larval stage, whereas the adults are anthophilous visiting flowers of shrubs or deciduous trees at forests. The identification of species within *Pidonia* is considerably more difficult than in any other genera of longicorn beetles. This may be due to the scarcity of obvious classical characters previous authors relied upon, the abundance of intraspecific variations including local, sexual dimorphism, coloration or markings, and confusing interspecific similarities. Consequently, the systematics of this group have been much confused, and many mistakes have been made in identification by previous authors.

Thus the present study aims to reduce the existing taxonomic problems in the genus and to provide an improved classification based on a variety of reliable morphological characters.

This work was based on more than 5,300 specimens available from the following institutions, universities, and private collections: Agricultural Science Institute, Suwŏn; Forest Research Institute, Seoul; National Science Museum, Taejŏn; Korean Entomological Institute, Seoul; Kyungpook National University, Taegu; Kangweon National University, Ch'unch'ŏn; Sungshin Women's University, Seoul; K. Anno, Y. Hasegawa, T. Kanbe, M. Kuboki, and T. Shimomura, all from Japan. For the

comparative survey, many specimens obtained or borrowed from Europe, China, and Japan were also examined.

All the type material treated herein will be deposited in the Systematic Entomology Laboratory, Dept. of Agricultural Biology, Kyungpook National University, Taegu, and in the Division of Entomology, National Science Museum, Taejon.

We wish to express our deep appreciations to Professors Y.E. Choi, J.T. Lee, and S.L. Garrigues of Kyungpook Nat. University, K.T. Park of Kangweon Nat. University, and H.Y. Chu of Gyeongsang Nat. University, who critically read the manuscript with helpful opinions.

Special thanks are due to the Curator, S.M. Lee of National Science Museum, Taejon, who provided valuable specimens and many helpful comments for this study.

Table 1. A synopsis of the first recorded taxa of *Pidonia* from Korea (All valid species names are printed in bold).

Year	Author	Genus(Subgenus)	Species
1888	Bates	<i>Leptura</i> (<i>Pidonia</i>)	<i>gibbicollis</i>
1927	Okamoto	<i>Omphalodera</i>	<i>puziloi</i>
1932	Heyrovsky	<i>Pseudopidonia</i>	<i>signifera</i> (error for <i>amurensis</i>)
1932a	Plavilstshikov	<i>Omphalodera</i>	<i>puziloi</i> var. <i>flaviventris</i> (= <i>puziloi</i> , syn. by Mitono, 1940)
1932	Matsushita	<i>Pseudopidonia</i>	<i>debilis</i>
1936	Plavilstshikov	<i>Pseudopidonia</i>	<i>amurensis</i>, <i>similis</i>, <i>suvorovi</i>, <i>alticollis</i>, <i>tristicula</i> (= <i>alticollis</i> , syn. by Hayashi, 1969)
1937	Matsushita	<i>Pseudopidonia</i>	<i>maculithorax</i> (=error for <i>similis</i>)
1938	Seki	<i>Pidonia</i> (<i>Pseudopidonia</i>)	<i>maltinoides</i> (= <i>alticollis</i> , syn. by Hayashi, 1969)
1940	Mitono	<i>Omphalodera</i>	<i>puziloi</i> ab. <i>nigriventris</i> (= <i>puziloi</i>)
1942	Tamanuki	<i>Omphalodera</i> <i>Pidonia</i> (<i>Pseudopidonia</i>)	<i>puziloi</i> ab. <i>nigrobasalis</i> (= <i>puziloi</i>) <i>signifera</i> f. <i>corea</i> (= <i>amurensis</i> , syn. by Hayashi, 1968)
1942	Ohbayashi	<i>Pseudopidonia</i>	<i>signifera</i> ab. <i>nigrosignata</i> (= <i>amurensis</i> , syn. by Hayashi, 1968) <i>amurensis</i> ab. <i>octoguttata</i> + ab. <i>quadriguttata</i> (= <i>amurensis</i> , syn. by Hayashi, 1968)
1983	Hayashi	<i>Pidonia</i> (<i>Pidonia</i>)	<i>quelpartensis</i> (= <i>amurensis</i> , syn. nov)
1987	Kim et Chang	<i>Pidonia</i>	<i>testacea</i> (=error for <i>puziloi</i>)

SYSTEMATICS

Genus *Pidonia* Mulsant, 1863

Pidonia Mulsant, 1863, Hist. Nat. Col. Franc. Long. Ed. 2: 570.

Type-species: *Leptura lurida* Fabricius, 1792 (Europe).

Omphalodera Solsky, 1873, Hor. Soc. Ent. Ross. 9: 244 (subgenus).

Type-species: *Omphalodera puziloi* Solsky, 1873 (U.S.S.R.: Maritime Territory).

Thesalia Casey, 1891, Ann. New York Ac. 6: 36 (subgenus).

Type-species: *Acmaeops lisa* Casey, 1891 (U.S.A.: California).

Pseudopidonia Pic, 1900, Echange 16: 81.

Type-species: *Pseudopidonia amurensis* Pic, 1900 (U.S.S.R.: Maritime Territory).

Haplosalia Casey, 1913, Mem. Col. 4: 200.

Type-species: *Leptura vivex* Newman, 1841 (U.S.A.: New York).

Diagnosis. Body generally minute to moderate, ranging from 4–15mm in overall length, robust or slender. General coloration usually testaceous, often having black markings. Head usually broader than prothorax, but in female often narrower than it; frons somewhat vertical, having a longitudinal groove extending to vertex; vertex slightly convex; genae short; occiput moderately depressed medially; tempora relatively well developed; apical segments of maxillary pulpi varied in shape and remarkably dilated distally; antennal tubercles somewhat protrudent, variable in different species. Prothorax subcylindrical in general shape, usually longer than broad, moderately constricted behind apex and before base; lateral sides angulately, slightly or roundly protrudent near the middle portions; disc usually convex, with or without a longitudinal carina or lustrous line along middle before basal constriction; prosternum transversely concave medially; prosternal process very narrowly pointed. Metasternum fine longitudinally grooved medially. Scutellum nearly triangular, with blunt or subround apex. Elytra distinctly broader than prothoracic base, nearly 2–3 times as long as basal width; elytral markings variable, or absent; disc moderately convex. Hind wings fully developed, with radial cell triangular; 1st cubitus vein bifurcate at apical portion; anal cell absent. Legs slender; femora weakly clavate; tarsi rather broad; hind metatarsi longer than the following two segments taken together. Abdomen with last sternum in male usually triangularly or semicircularly concave; apex transversely truncate, or arcuately emarginate at middle; last tergite usually truncate, or emarginate medially.

Male genitalia. Aedeagus usually larger than parameres, moderately sclerotized, strong, or rather curved ventrally; aedeagal shaft simple and smooth; apex usually narrowed distally and acutely to bluntly pointed, or angulated. Parameres separated each other from basal portion, each apical lobe gradually narrowed distally and clothed with dense to sparse, short to long, terminal hairs; diverticulum variable in length, located to apical portion of endophallus; ostium lobate at its basal area; falcate sclerite, and arcuate in shape.

Female genitalia. Spermatheca variable in shape; spermathecal gland located at lateral wall.

Vagina generally enlarged bacilli; valvifer strongly narrowed apically. Apical segment of coxite furnished with sensory pubescence; stylus sclerotized and ovate.

Key to subgenera of Korean *Pidonia*

1. Antennae slender, filiform, usually longer than or at least as long as body in male; hind tibiae straight 2
 Antennae stout slightly thickened distally, always shorter than body in both sexes; hind tibiae arcuate *Omphalodera*
2. Male parameres long, slender, usually bent inwards at apex; elytral markings entirely absent *Mumon*
 Male parameres short, simply narrowed distally and truncate or rounded at apex; elytral markings usually present *Pidonia* s. str.

Subgenus 1. *Mumon* Hayashi, 1968

Mumon Hayashi, 1968, Bull. Osaka Jon. Wom. Jun. Coll. 3: 15.

Type-species: *Grammoptera debilis* Kraatz, 1879 (U.S.S.R.: Maritime Territory).

Diagnosis. Body generally medium sized, ranging from 6.7–8.5mm in overall length. General coloration usually fulvous, always lacking markings. Head subvertical in front, finely grooved medially from frons to occiput; last segments of maxillary palpi slightly broadened apically and obliquely truncate at apices; tempora nearly impunctate bearing several setae, gradually narrowed posteriorly; antennae extending beyond elytral apices or shorter; scape shorter than 4th; 3rd about as long as 1st and 2nd combined; 5th longest. Prothorax as long as wide, or longer; lateral prominence gently round before middle; disc convex, not distinctly raised along median line. Elytra gently narrowed distally; discal punctures narrower than interspace. Legs rather slender; hind femora not reaching to elytral apices; tibiae linear; hind metatarsi longer than the following two tarsi combined. Abdomen gradually narrowed posteriorly, with fine close punctures and thin pubescence.

Male genitalia. Aedeagus curved ventrally, sharply pointed apically; parameres elongate, slender and bent inward, with apical lobes furnishing short hairs.

Female genitalia. Spermatheca well sclerotized, vertically bent at middle; vagina enlarged basally; coxite with apical and basal segments distinct.

1. *Pidonia* (*Mumon*) *debilis* (Kraatz, 1879) (Figs. 1–5: L) 노란각시하늘소(다색각시꽃하늘소, 땅색각시꽃하늘소)

Grammoptera debilis Kraatz, 1879, Deutsch. Ent. Zeitschr. 23: 104–105 (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head, scutellum and pronotum pale reddish brown;

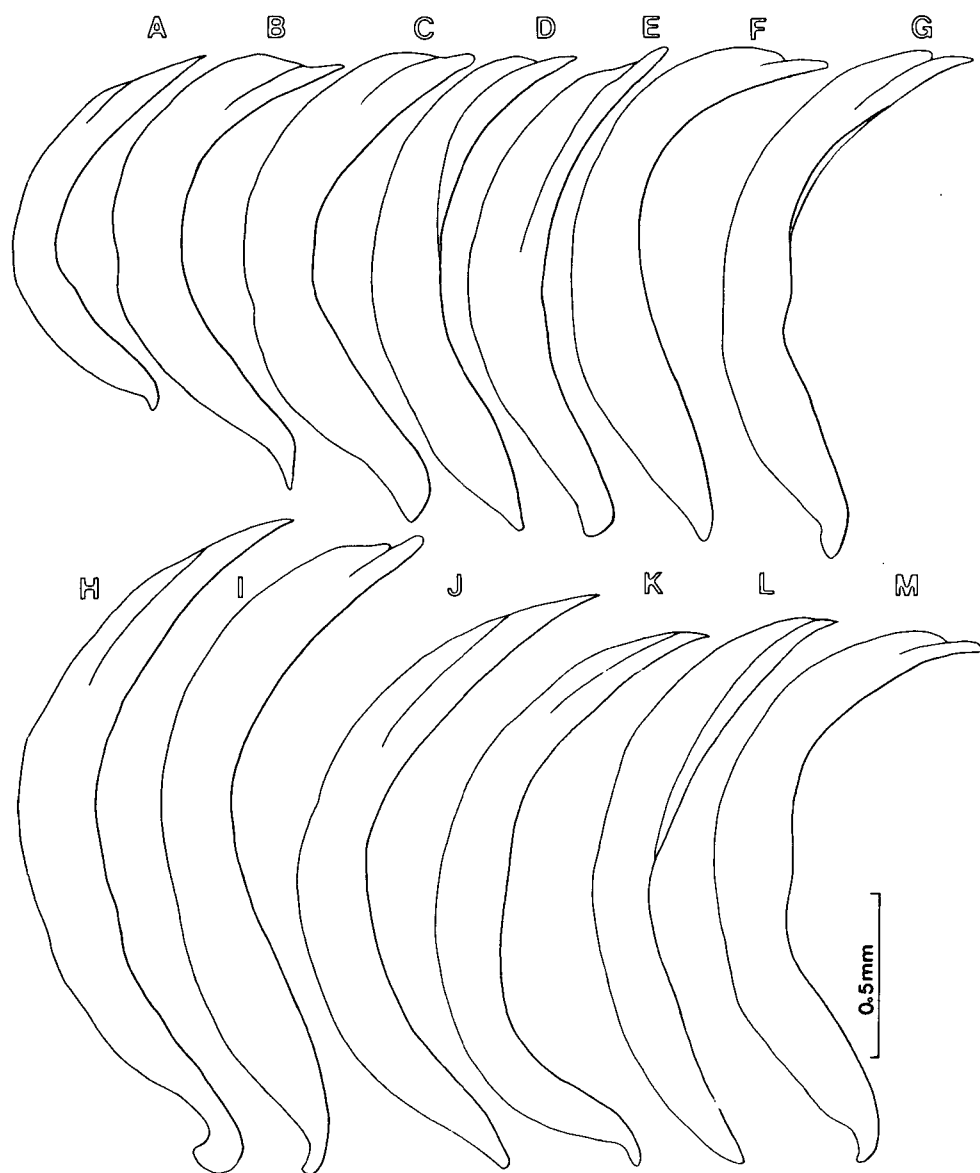


Fig. 1. Aedeagi of *Pidonia* in lateral view.

A). *Pidonia puziloi*; B). *P. alpina* sp. nov.; C). *P. alticollis*; D). *P. elegans* sp. nov.; E). *P. koreana* sp. nov.; F). *P. suvorovi*; G). *P. amurensis*; H). *P. longipennis* sp. nov.; I). *P. similis*; J). *P. gibbicollis*; K). *P. seungmoi* sp. nov.; L). *P. debilis*; M). *P. weolseae* sp. nov.

mouth parts yellowish brown; antennae fulvous, with 3rd and following segments blackish apically; elytra entirely fulvous; legs pale yellowish brown, with apices of hind femora, mid metatibiae, and tarsal segments blackish; ventral surface testaceous except for sternites reddish fulvous. Head moderately and closely punctured, with short sparse appressed pubescence; maxillary palpi rather long; labrum sparsely punctate, bearing short pubescence apically and long one subbasally; clypeus sparsely punctate with long hairs, punctures narrower than interspaces; compound eyes gradually narrowed posteriorly, with moderate emargination at middle of internal margins; antennal scape clothed with short appressed pubescence, slightly shorter than 4th. Prothorax strongly narrowed apically, narrowly constricted behind apex and broadly constricted before base; disc more or less globular, with sparse appressed hairs and close punctures; prosternum almost impunctate, with very sparse pubescence; meso- and metasterna close finely punctate, with dense fine appressed pubescence. Scutellum longer than basal width, rounded apically; surface clothed with thinner and shorter appressed pubescence than elytral one. Elytra about 2.4 times as long as basal width, separately subrounded at apices; disc covered with suberect pubescence, coarsely punctate. Tibiae with a pair of subequal spines at apical portion. Abdomen with apex of last sternite slightly triangularly notched at middle; last tergite subroundly truncate apically. Aedeagus slightly constricted near middle in lateral view, and less curved ventrally; endophallus short; apical lobes of parameres elongate, slender and bent inwardly.

Female. Body more robust than male. Head including eyes slightly narrower than prothorax; antennae scarcely reaching at elytral apices. Elytra 2.2 times as long as basal width, parallel-sided. Abdomen with last sternite subrounded apically; last tergite gently rounded apically. Spermatheca enlarged near middle, and constricted subapically; stylus narrowed basally, with terminal setae.

Overall Length. Male 6.5–8.5mm, female 6.0–8.5mm.

Material examined. CB: 2♂, Mt. Songni-san, 10.VI.1977, S. Lee; 1♂, Mt. Wörak-san, 13.VII.1983, T.C. Park; CN: 35♂ & 24♀, Mt. Kyeryong-san, 23–24.V.1989, S. An; GB: 4♂ & 2♀, Mt. Chuhül-san, 5.VI.1983, S. Lee; 2♂ & 3♀, Mt. P'algong-san, 27.V.1981, Y. Kwon; 1♂ & 1♀, 25.V.1982; 5♂ & 6♀ 29.V.1985; 3♂, 6.VI.1985; 3♀, 16.V.1986, all same locality & collector; 44♂ & 41♀, Mt. Sobaek-san, 3–5.VI.1981, S. Lee; 1♂, 18.VI.1984, same locality & collector; 4♂ & 4♀, Mt. Unmun-san, 18–19.V.1985, Y. Kwon; 1♂ & 2♀, 21.V.1991, same locality & collector; GG: 1♀, Ch'önma-san, 21.V.1978, S. Lee; 1♂ & 1♀, 17.V.1980, same locality & collector; 1♂, Mt. Myöngji-san, 27.V.1978, S. Lee; 1♂ & 2♀, Mt. Soyo-san, 15.V.1982, Y. Kwon; 1♂, Mt. Unak-san, 6.VI.1985, S. Lee; 3♂, Mt. Un'gil-san, 22.V.1983, S. Lee; GN: 1♀, Mt. Chiri-san, 13.VII.1981, S. Lee; 16♂ & 8♀, same locality, 27.V.1989, S. An; 5♂, Mt. Kaji-san, 10.V.1981, Y. Kwon; 1♂ & 2♀, Mt. Wönhyo-san, 6.VI.1981, Y. Kwon; 1♀, Mt. Yöngch'wi-san, 11.V.1981, Y. Kwon; GW: 1♀, Mt. Kariwang-san, 1.VII.1987, S. An; 1♀, Mt. Obong-san, 12.V.1985, Y. Kwon; 1♂, Mt. Odae-san, 9.VII.1976, S. Lee; 2♂ & 1♀, same locality, 31.VII.1983, Y. Kwon; 2♂, 4–5.VIII.1983, same locality & collector; 1♂ & 1♀, Mt. Pangdae-san, 26.VII.1974, S. Lee; 1♂, 28.VII.1974, same locality & collector; 1♂, Mt. Sörak-san, 14.VI.1970, S. Lee; 1♂, 18.VI.1970; 1♂, 3.VIII.1975; 2♂, 16.VI.1978; 5♂ & 1♀, 17.VI.1978; 1♂ & 1♀, 23.VI.1980; 11♂ & 6♀, 30.V.1981; 7♂ & 8♀, 1–2.VI.1981, all same locality & collector; 2♂, same locality, 29–30.VI.1984, Y. Kwon; 4♂, same locality,

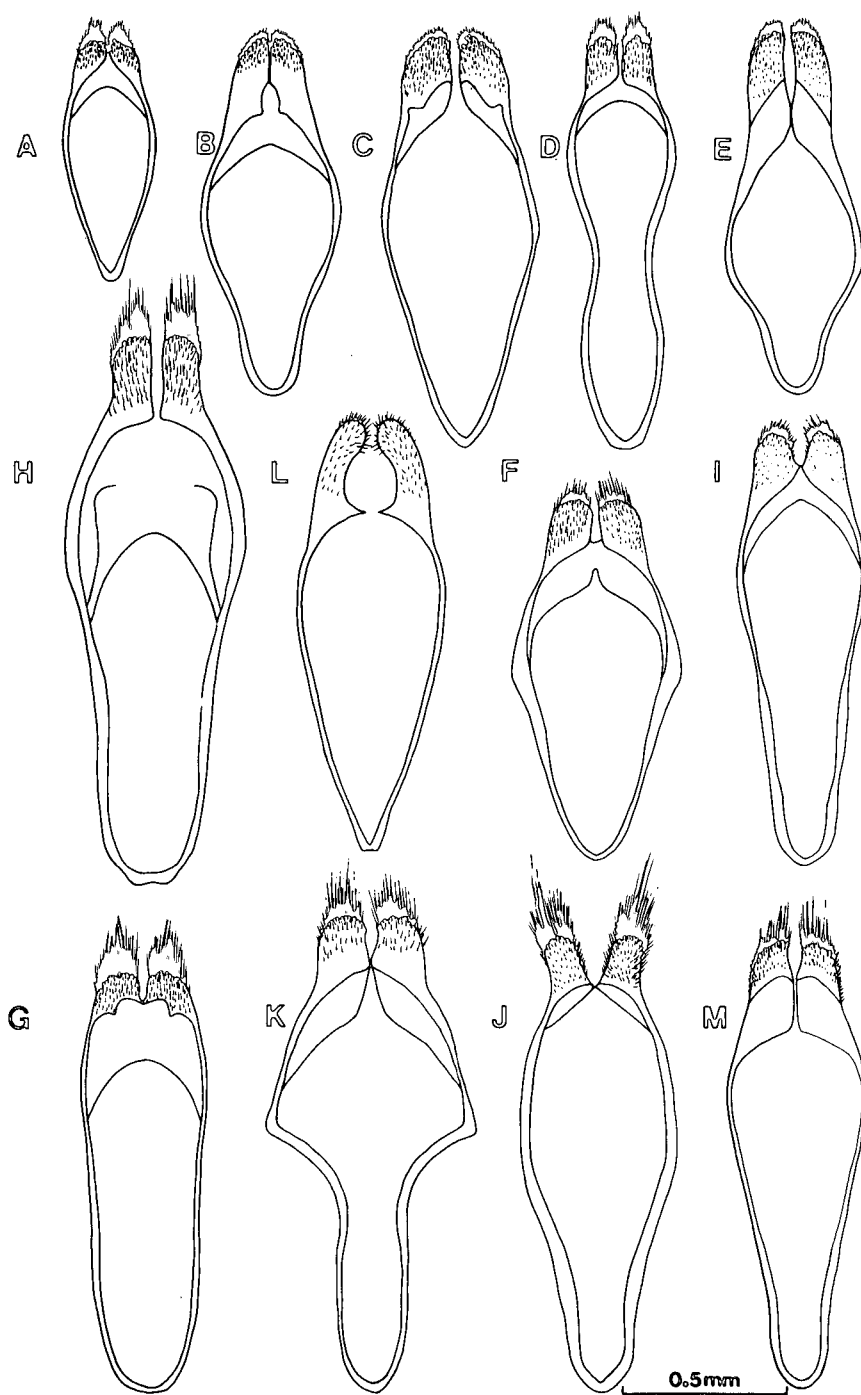


Fig. 2. Parameres of *Pidonia* in ventral view.

For caption, see Fig. 1.

31.V~1.VI.1986, S. An; 1♀, 25.VI.1986, same locality & collector; 6♂ & 6♀, same locality, 22-23.V.1989, Y. Kwon; 2♀, Mt. Taeam-san, 26.VII.1986, S. An; 1♂ & 1♀, 28.VII.1987, same locality & collector; 1♂, Mt. T'aebaek-san, 26.VI.1974, S. Lee; 2♂ & 1♀, 28.VI.1976; 4♂ & 4♀, 18-19.VI.1983, all same locality & collector; JB: 4♂ & 2♀, Mt. Naejang-san, 8.VI.1968, S. Lee; 1♂, Mt. Tögyu-san, 28.V.1991, Y. Kwon; 3♂ & 2♀, 19.VI.1991, same locality & collector.

Distribution. Korea (North, Central, South), China (Jilin), U.S.S.R. (E. Siberia, Maritime Territory, Sachalin).

Host plant. Unknown; flower record-*Actinidia kolomikta*, *Cornus* (all cf. Kuboki, 1982), *Fraxinus* (cf. Tsherepanov, 1979), *Magnolia* (cf. Kuboki, 1982), *Sorbus* (cf. Kuboki, 1982), *Stephanandra incisa*, *Symplocos* (cf. Kuboki, 1982), *Syringa amurensis*, *Viburnum*.

Subgenus 2. *Omphalodera* Solsky, 1873

Omphalodera Solsky, 1873, Hor. Soc. Ent. Ross. 9: 244.

Type-species: *Omphalodera puziloi* Solsky, 1873 (U.S.S.R.: Maritime Territory).

Diagnosis. Body small to medium sized, ranging from 4-8mm in overall length. General coloration yellowish brown to black. Head broader than prothorax, with median line extending from frons to vertex forward; last segments of maxillary palpi slightly broadened apically, and obliquely truncate at apices; compound eyes feebly emarginate at middle of internal margins; tempora nearly subparallel in anterior half; antennae thickened distally, nearly as long as body in male, or distinctly shorter in female. Prothorax longer than the broadest width; base slightly broader than width across lateral prominent portions; disc strongly convex, with a distinctly raised longitudinal carina. Elytra gradually narrowed distally, conjointly rounded at apice; disc strongly punctured, and sparsely furnished with suberect long pubescence. Legs relatively long; femora slightly denticulated at undersides; hind femora slightly surpassing elytral apices; hind tibiae arcuate; hind metatarsi subequal in length to 2nd and 3rd united together.

Male Genitalia. Aedeagus strongly curved ventrally, relatively slender and acute apically; parameres comparatively short, apical lobes roundly produced, densely clothed with short terminal hairs.

Female genitalia. Spermatheca nearly subrounded. Vagina large; stylus gradually narrowed basally, with apical hairs; apical segment of coxite subquadrate, with sparse hairs.

2. *Pidonia* (*Omphalodera*) *puziloi* (Solsky, 1873) (Fig. 1-5: A) 녁점각시하늘소(냉점박이각시꽃하늘소)

Omphalodera puziloi Solsky, 1873, Hor. Soc. Ent. Ross. 9: 245-247, pl.8(5) (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head largely black, with mouth parts, frons, and tempora light brown to reddish brown; antennae largely yellowish brown, sometimes 4th or 5th seg-

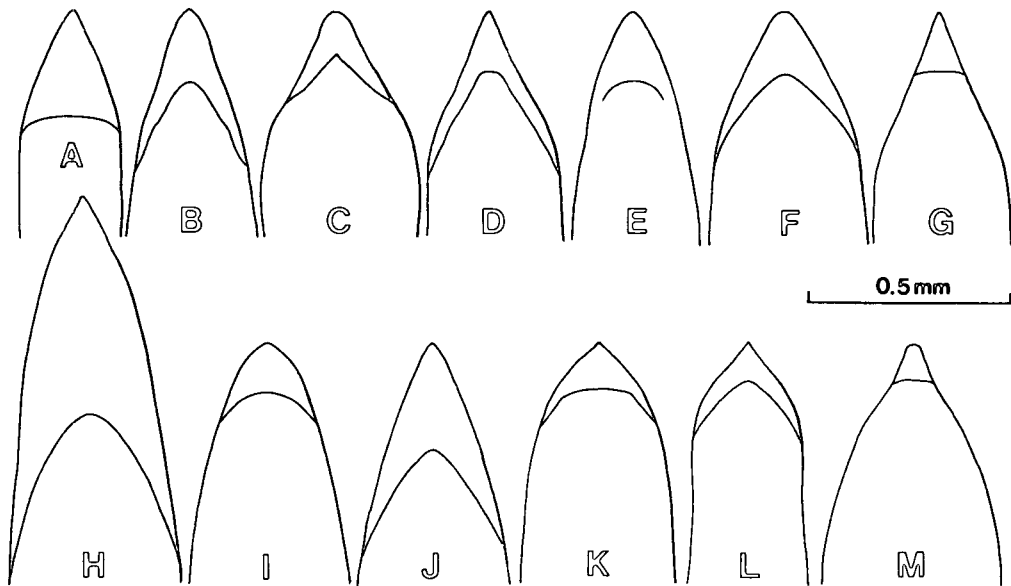


Fig. 3. Apical portions aedeagi of *Pidonia* in dorso-caudal view.

For caption, see Fig. 1.

ments tinged with black at apices, black portions gradually enlarged apically; prothorax dark reddish brown apically; scutellum light reddish brown to black; elytra blackish brown with two pairs of arcuate whitish yellow stripes near middle, and with narrow or broad reddish brown vittae along base, suture and margins; legs yellowish brown, with femora brown except apical portions which are largely dark brown; ventral surfaces of head and thorax reddish brown to yellowish brown; abdomen black, except for last sternite which is reddish fulvous. Head closely punctured, with short sparse appressed pubescence; maxillary palpi moderately long; labrum finely punctate, with short pubescence at apical portions and long one subbasally; clypeus coarsely punctate, with sparse and long hairs, punctures narrower than interspaces; tempora almost impunctate and shining, with several short setae; antennae distinctly extending beyond posterior whitish yellow markings of elytra; scape slightly shorter than 3rd; 2nd nearly 0.3 times as long as 3rd which is subequal in length and shape to 4th; 6th slightly shorter than 7th. Prothorax strongly narrowed at apex, broadly constricted behind apex and before base, dull angulately protrudent laterally just before middle; disc coarsely and densely punctured, and sparsely furnished with a recumbent pubescence; prosternum nearly impunctate, with sparse appressed pubescence; meso- and metasterna finely punctate, with very short appressed pubescence. Scutellum nearly as long as basal width, triangular, and bluntly pointed apically; surface finely punctate, with thin and short pubescence. Elytra about 2.3 times as long as basal width; disc coarsely and deeply punctured, and sparsely furnished with slant short and long hairs; size of puncture gradually narrowed apically. Legs slender with 3rd hind tarsal segment bilobed, bearing dense

pubescence. Abdomen sparsely clothed with suberect hairs; apex of last sternite slightly notched at middle; last tergite gently rounded at apex. Aedeagus slender and acutely pointed; endophallus short, with long diverticulum; parameres shorter than aedeagus.

Female. Body stouter than in male; labrum and clypeus reddish fulvous to pitchy; abdomen black, except for last and 2nd sternites which are reddish brown. Antennae reaching to posterior whitish yellow markings of elytra. Elytra 2.3 times as long as basal width, parallel-sided. Last sternite gently round apically; last tergite with apical margin very shallowly emarginate at middle. Spermatheca comparatively small, abruptly enlarged distally.

Overall Length. Male 4.0–7.0mm, female 4.0–7.5mm.

Material examined. CB: 1♂ & 1♀, Mt. Songni-san, 10.VI.1977, S. Lee; 1♀, 9.VIII.1979, same locality & collector; CN: 58♂ & 36♀, Mt. Kyeryong-san, 23–24.V.1989, S. AN; GB: 12♂ & 2♀, Mt. Chuhul-san, 5.VI.1983, S. Lee; 1♂, Mt. P'algong-san, 23.V.1981, Y. Kwon; 10♂, 27.V.1981; 1♀, 17.V.1982; 2♂ & 1♀, 25.V.1982; 1♂, 17.V.1983; 1♂, 24.V.1983; 7♂ & 16♀, 26.V.1985; 6♂ & 2♀, 29.V.1985; 2♂, 6.VI.1985; 4♂ & 7♀, 28.V.1989, all same locality & collector; 1♀, Mt. Sobaek-san, 3.VI.1981, S. Lee; 4♂ & 1♀, 5.VI.1981, same locality & collector; 1♂ & 2♀, same locality, 29.VI.1984, Y. Kwon; 4♂ & 3♀, Mt. Unmun-san, 18.V.1985, Y. Kwon; 4♂ & 7♀, 19.V.1985; 2♂ & 2♀, 21.V.1991, all same locality & collector; GG: 1♂, Kwangnŭng, 29.V.1983, S. Lee; 37♂ & 26♀, Mt. Pukhan-san, 2.VI.1989, S. An; GN: 1♂ & 1♀, Mt. Chiri-san, 27.V.1976, S. Le; 2♂, same locality, 13–14.VII.1981, Y. Kwon; 1♂ & 2♀, 5.VI.1983; 11♂ & 3♀, 27.V.1989, all

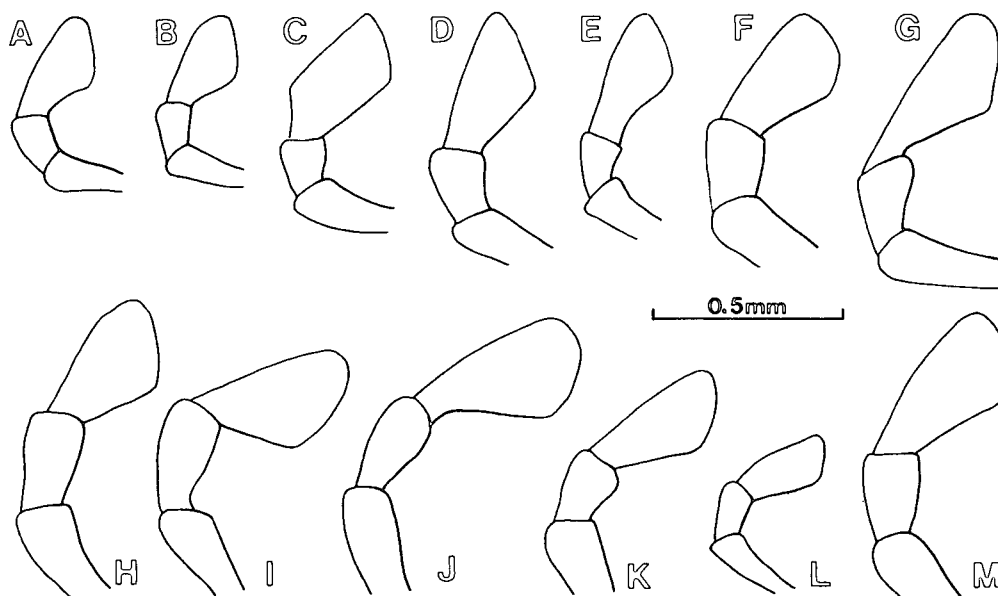


Fig. 4. Maxillary palpi of male *Pidonía* in dorsal view.

For caption, see Fig. 1.

same locality & collector; 2♂ & 3♀, Mt. Kaji-san, 10.V.1981, Y. Kwon; 1♀, 21.V.1980, same locality & collector; 1♂ & 2♀, Mt. Sinbul-san, 28.V.1980, Y. J. Kwon; 2♂, Mt. Wŏnhyo-san, 6.VI.1981, Y. Kwon; 3♂ & 2♀, Mt. Yŏngch'wi-san, 28.V.1983, Y. Kwon; GW: 1♂, Mt. Ch'iaak-san, 21.V.1979, S. Lee; 1♂, 15.VI.1984, same locality & collector; 20♂ & 20♀, Mt. Kyebang-san, 31.V.1991, Y. Kwon; 1♀, Sabuk Myŏn, 15.V.1985, S. Lee; 1♂ & 2♀, Mt. Odae-san, 24.V.1989, Y. Kwon; 3♀, Sokŕngang, 24.V.1989, K. Park; 2♂ & 3♀, Mt. Sŏrak-san, 26.VI.1970, S. Lee; 1♂, 25.VII, 1973; 5♂ & 1♀, 16–18.VI.1978; 1♂, 20.VI.1978; 5♂ & 2♀, 21.VI.1980; 1♂, 23.VI.1980; 1♂ & 4♀, 30.V.1981; 7♂ & 4♀, 29–30.VII, 1982, all same locality & collector; 1♀, same locality, 17.V.1981, Y. Kwon; 28♂ & 18♀ 1–2.VI.1981; 7♂ & 1♀, 26–27.VII.1982; 28♂ & 15♀, 29–30.VI.1984; 8♂ & 6♀, 22–23.V.1989, all same locality & collector; 3♂ & 5♀, same locality, 31.V–I, VI.1986, S. An; 1♂, Mt. T'aebaek-san, 15.VI.1974, S. Lee; 6♂ & 9♀, 26–28.VI.1976, same locality & collector; HB: 2♂, Ch'aryŏng, 29.VII, 1923, Hasegawa & Kanbe; 1♀, 18.VII.1923, same locality & collector; JB: 1♂ & 1♀, Mt. Mai-san, 11.V.1980, Y. Kwon; 1♀, Mt. Naejang-san, 8.VI.1968, S. Lee; 2♀, Mt. Tŏgyu-san, 28.V.1991, Y. Kwon; 5♂ & 3♀, 19.VI.1991, same locality & collector; JJ: 1♂, Mt. Halla-san, 24.VI.1981, S. Lee; 10♂ & 11♀, 26–29.VI.1981, same locality & collector; 9♂ & 5♀, San'gumburi, 9.V.1989, Y. Kwon; JN: 1♂, Mt. Chogyŏe-san, 5.VI.1983, Y. Kwon.

Distribution. Korea (North, Central, South, Chejudo), Japan, China (Heilongjiang, Jilin), U.S.S.R. (E. Siberia, Maritime Territory, Sachalin).

Host plant. Unknown; flower record—*Acer* (cf. Kuboki, 1979), *Aesculus* (cf. Kuboki, 1979), *Anthriscu* (cf. Kuboki, 1979), *Castanea* (cf. Kuboki, 1979), *Fraxinus* (cf. Tsherepanov, 1979), *Hydrangea* (cf. Kuboki, 1979), *Padus asiatica* (cf. Tsherepanov, 1979), *Pyrus ussuriensis* (cf. Tsherepanov, 1979), *Sorbaria sorbifolia* (cf. Tsherepanov, 1979), *Spiraea* (cf. Kuboki, 1979), *Stephanandra incisa*, *Symplocos* (cf. Kuboki, 1979), *Ulmus* (cf. Tsherepanov, 1979), *Viburnum* (cf. Kuboki, 1979).

Subgenus 3. *Pidonia* s. str.

Pidonia Mulsant, 1863, Hist. Nat. Col. Franc. Long. ed. 2: 570.

Type-species: *Leptura lurida* Fabricius, 1792 (Europe).

Diagnosis. Body generally moderate, ranging from 6–15mm in overall length. General coloration usually testaceous, often having black markings. Head usually broader than prothorax in male, often narrower than it in female; frons somewhat vertical, having a longitudinal groove extending to vertex; vertex slightly convex; tempora relatively well developed; apical segments of maxillary palpi varied in shape, and remarkably dilated distally. Prothorax subcylindrical, usually longer than broad, moderately constricted behind apex and before base; lateral sides angulately, slightly or roundly protrudent near middle portions; disc usually convex, with or without a longitudinal carina or lustrous line along middle before basal constriction. Elytra distinctly broader than prothoracic base, nearly 2–3, times as long as basal width; elytral marking variable. Legs slender; femora weakly clavate; hind tibiae nearly straight; hind metatarsi longer than the following 2 segments taken together.

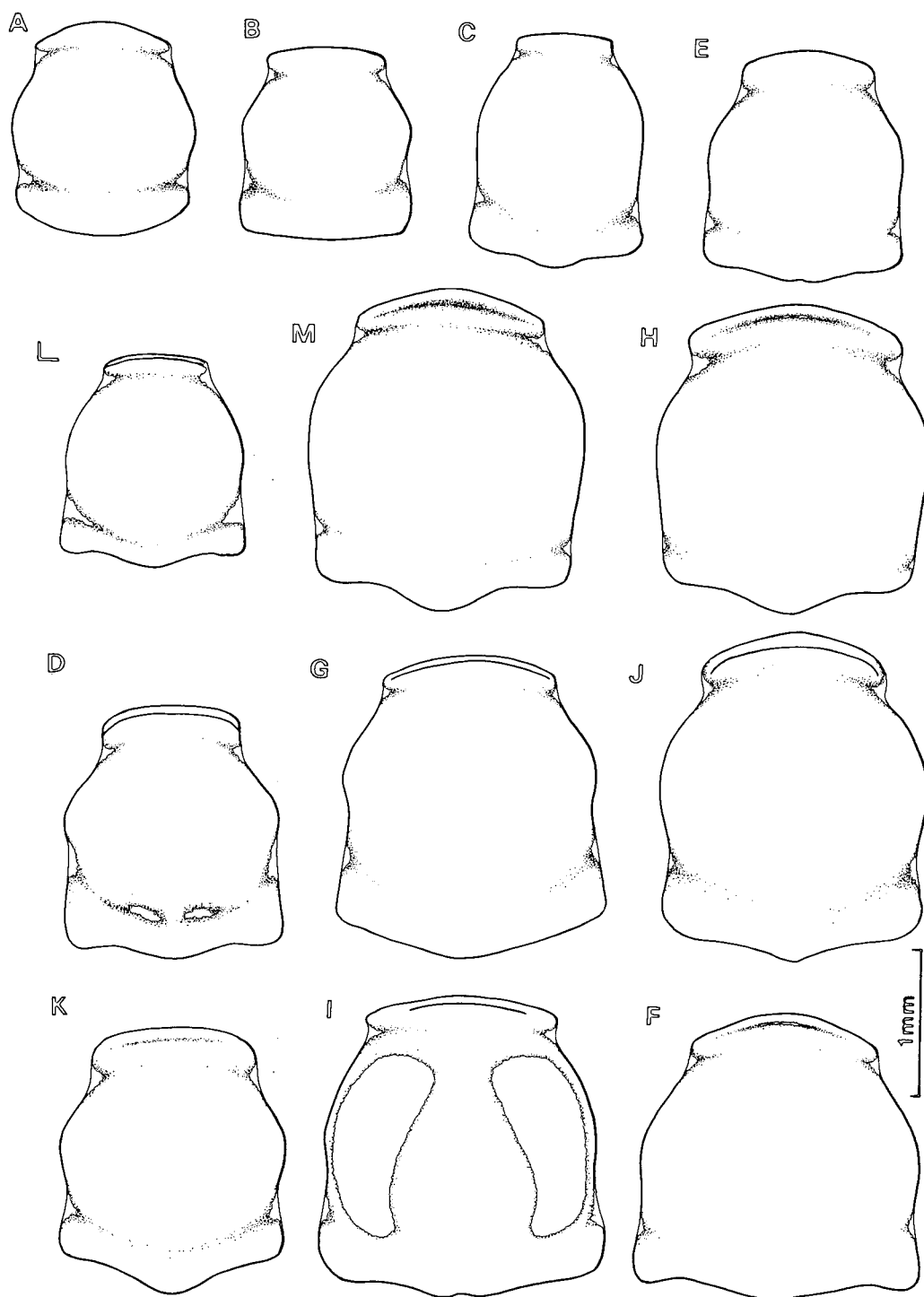


Fig. 5. Prothoraxes of male *Pidonia* in dorsal view.

For caption, see Fig. 1.

Male genitalia. Aedeagus generally larger than parameres, usually narrowed distally, acutely or bluntly pointed. Parameres separated each other from basal portion, apical lobes gradually narrowed distally, and clothed with dense to sparse, short, and long hairs.

Female genitalia. Spermatheca variable in shape; spermathecal gland located at lateral wall; vagina generally enlarged basally.

Key to species of the subgenus *Pidonia* s. str.

1. Apical segment of maxillary palpus in male with simple outer margin 2
 Apical segment of maxillary palpus in male with a dull angle at the outer margin *alticollis*
2. Parameres clothed with terminal sensory hairs shorter than width of apical lobe 3
 Parameres clothed with terminal sensory hairs longer than width of apical lobe 4
3. Pronotum very strongly convex; apical portion of median lobe less curved ventrally and bluntly pointed *koreana* sp. nov.
 Pronotum strongly convex; apical portion of aedeagus rather curved ventrally and pointed *alpina* sp. nov.
4. Elytra with lateral markings separated from each other; latero-posterior marking frequently meeting suture vitta 5
 Elytra with lateral markings usually meeting each other longitudinally, forming a submarginal vitta 7
5. Head and prothorax entirely black 6
 Head reddish yellow, with black stripes on the inside areas of tempora; prothorax reddish yellow, with black lateral markings at middle of sides *similis*
6. Apex of last sternite very shallowly emarginate at middle, nearly subtruncate; apex of last tergite broadly emarginate; aedeagus narrowed and sharply pointed apically *elegans* sp. nov.
 Apex of last sternite narrowly produced, with emargination at middle; apex of last tergite nearly subtruncate; aedeagus bluntly pointed apically *amurensis*
7. Elytra testaceous with black markings 8
 Elytra entirely blackish brown *suworovi*
8. Elytra with black basal band fused with humeral marking *seungmoi* sp. nov.
 Elytra without basal band 9
9. Prothorax longer than broadest width; aedeagus gently narrowed apically in dorsal view; last tergite not truncate at apex 10
 Prothorax nearly as long as broadest width; aedeagus constricted subapically in dorsal view; last tergite truncate at apex *weolseoae* sp. nov.
10. Head including eyes slightly broader than prothorax in male; pronotum convex without longitudinal keel; sutural marking strongly broadened basally; apical marking indistinct or absent; last tergite broad shallowly emarginate at apex *longipennis* sp. nov.
 Head including eyes nearly as broad as prothorax in male; pronotum rather convex, with longitu-

dinal keel; sutural marking slightly broadened basally; apical marking narrowly present; last tergite subroundly produced apically *gibbicollis*

3. *Pidonia* (*Pidonia*) *alpina* sp. nov. (Figs. 1-5: B) 나도산각시하늘소(신칭)

Male. Body elongate; general coloration of head black; mouth parts and legs reddish yellow; antennae reddish brown, 5th and the succeeding antennal segments black, tinged with reddish brown at basal and apical portions; scutellum reddish brown to black; elytra testaceous, with basal, sutural, sublateral and apical black markings; ventral surface reddish pitch to black. Head closely punctured with appressed pubescence; maxillary palpi long, last segments broad apically, and obliquely truncate at apices; labrum finely micropunctate, with pubescence at apical and basal portion; clypeus sparsely punctate with short pubescence, punctures narrower than interspace; compound eyes more or less emarginate; tempora almost impunctate and shining, ; a few setae; antennae slender, distal part of 10th segments extending beyond elytral apices; scape very finely punctate, clothed with short, recumbent pubescence; 2nd longer than broad; 3th nearly as long as 1st and 2nd combined; 4th shorter than 3rd, and subequal to 6th in length. Prothorax strongly narrowed at apex, broadly constricted behind apex and before base; width across lateral prominent slightly broader than base; basal margin bisinuate, obviously broader than apical margin; disc of pronotum strongly convex above, finely and closely punctate, moderately clothed with appressed pubescence; posterior lateral setae long; prosternum transversely rugged with sparse pubescence; meso- and metasterna finely punctate, closely covered with short appressed pubescence. Scutellum slightly longer than basal width, bluntly pointed apically; surface finely punctate, with thin and short pubescence. Elytra about 3 times as long as basal width, gradually narrowed apically; apices obliquely truncate; disc closely punctate and clothed with recumbent pubescence; diameter of punctures smaller than interspace. Legs finely punctate, with short recumbent pubescence; apices of hind femora not reaching to elytral apices; tibiae gradually broadened apically, with recumbent pubescence; tibial spines nearly subequal in length and shape; tarsi densely clothed with pubescence under surface. Abdomen elongate and gradually narrowed apically, with dense, fine and appressed pubescence; apex of last sternite triangularly notched at middle; apex of last tergite rounded. Aedeagus strongly curved ventrally and pointed at apex; endophallus relatively short; parameres slenderly produced, and sparsely clothed with short hairs apically.

Female. Body more robust than in male; 3rd and the succeeding antennal segments dark brown to black; broad sutural, submarginal and apical black stripes meeting at subapical area, sometimes with discontinued apical markings by transverse testaceous areas; apices of hind femora tinged with black. Head slightly narrower than prothorax; last antennal segments slightly exceeding beyond elytral apices. Elytra 2.5 times as long as basal width, parallel-side. Last sternite gently rounded; apex of last tergite shallowly emarginate at middle. Spermatheca subroundly enlarged basally, and gradually narrowed apically; vagina large; stylus enlarged apically with sparse and long hairs at apical area.

Overall length. Male 6.5-9.5mm, female 7.5-9.5mm.

Material examined. Holotype ♂, Mt. Sobaek-san, GB, Korea, 4.VI.1981, S. Lee; paratypes: 4♂ & 1♀, same data as holotype; 1♂ & 2♀, 5.VI.1981, same locality & collector; 1♀, Mt. Chiri-san, GN, Korea, 13.VII.1981, S. Lee; 1♂, Mt. Sörak-san, GW, Korea, 30.V.1981, S. Lee; 1♂, same locality, 1.VI.1981, S. Lee; 2♂, same locality, 30.VI.1984, Y. Kwon; 1♀, same locality, 23.V.1989, Y. Kwon; 1♂, Mt. Sudo-san, GB, Korea, 27.VII.1979, S. Lee; 1♂ & 3♀, Mt. T'aebaek-san, GW, 27.VI.1976, S. Lee.

Distribution. Korea (Central, South).

Host plant. Unknown.

Remarks. This new species is closely allied to *alticollis*, but can be easily distinguished from the latter by the apical segments of maxillary palpi in male lacking a weak angle at the outer margin, apical portion of aedeagus being relatively bluntly pointed, and by parameres which are narrowly produced apically.

4. *Pidonia (Pidonia) alticollis* (Kraatz, 1879) (Figs. 1-5: C) 홍가슴각시하늘소 (별각시꽃하늘소, 홍가슴각시꽃하늘소)

Grammoptera alticollis Kraatz, 1879, Deutsch. Ent. Zeitschr. 23: 103-104, pl.(11) (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head black, frons and vertex dark brown, mouth parts and legs brownish yellow to light brown; antennae light brown, 3rd and succeeding antennal segments tinged with black at their apices, the black portion gradually expanded apically; prothorax dark reddish brown; scutellum dark brown to black; elytra testaceous, basal, sublateral, sutural, and apical black markings connected each other, sometimes humeral marking absent or indistinct; ventral surface nearly pitchy to black. Head closely punctate, with a weak median line and appressed pubescence; maxillary palpi moderately long, last segment extending apically, obtusely angulate at outer margins, and obliquely clothed with short pubescence, posterior area transversely clothed with long hairs; clypeus irregularly and coarsely punctate with short and long hairs; interspace broader than the diameter of punctures; compound eyes somewhat emarginate; tempora almost impunctate and shining, with several setae, gradually narrowed to the weakly angulated area, strongly constricted behind it; antennae slender, apical 2 segments exceeding beyond elytral apices; scape distinctly stouter than the succeeding segments; 3rd segment slightly longer than 1st and 2nd combined; 4th shorter than 3rd. Prothorax strongly narrowed at apex; sides obtusely prominent; basal margin weakly bisinuate; disc strongly convex, finely and densely punctate with a shiny impression extending from middle to basal constriction, surface densely covered with fine and appressed pubescence; lateral portion of base with long hairs. Scutellum slightly longer than basal width, subroundly and gently truncate apically; surface densely punctate with appressed pubescence. Elytra about 2.7 times as long as basal width; base broadest and gradually narrowed distally; apices subtruncate; disc sparsely and subrectly covered with short pubescence; punctures coarse and moderate, gradually smaller distally, and the diameter shorter than interspace between punctures. Legs with a pair of spurs at apical portions of fore and middle tibiae subequal in length; upper spur of hind tibiae 2 times as long as under

one. Abdomen densely and finely punctate, clothed with appressed whitish pubescence; apical margin of last sternite bilobed; terminal tergite emarginate at middle. Aedeagus usually slender, strongly curved ventrally and pointed apically; apical lobes of parameres narrowly and subroundly produced, with sparse short hairs.

Female. Body more robust than in male; almost black, or black with brownish yellow stripes longitudinally except for prothorax, mouth parts and tarsi which are dark reddish brown; bases of femora reddish to yellowish brown. 3rd antennal segment subequal in length to 1st and 2nd combined together. Elytra 2.5 times as long as basal width, parallel-sided; apices roundly truncate; disc more densely and deeply punctate than in male; interspace between punctures narrower than the diameter of puncture. Last tergite and sternite produced roundly. Spermatheca subroundly enlarged basally, and gradually narrowed apically; bursa copulatrix small; vagina large; baculum gradually narrowed apically; stylus very small, with sparse hair at apical area.

Overall length. Male 7.0–9.0mm, female 8.5–10.5mm.

Material examined. GB: 3♂ & 1♀, Mt. Sobaek-san, 4–5.VI.1981, S. Lee; GN: 2♂ & 1♀, Mt. Chiri-san, 25.VI.1982, S. Lee; GW: 1♂, Mt. Sörak-san, 20.VI.1970, S. Lee; 1♂, 30.V.1981; 3♂, 1.VI.1981; 1♀, 6.VI.1986, all same locality & collector; 4♂ & 2♀, Mt. T'aebaek-san, 26–27.VI.1976, S. Lee; 1♀, 19.VI.1983, same locality & collector.

Distribution. Korea (North, Central, South), U.S.S.R. (Maritime Territory).

Host plant. Unknown; flower record—*Actinidia kolomikta* (cf. Tsherepanov, 1979), *Cornus* (cf. Kuboki, 1982), *Lonicera edulis* (cf. Tsherepanov, 1979), *Magnolia* (cf. Kuboki, 1982), *Sorbus* (cf. Kuboki, 1982), *Stephanandra incisa*, *Symplocos* (cf. Kuboki, 1982), *Syringa amurensis* (cf. Tsherepanov, 1979).

5. *Pidonia* (*Pidonia*) *amurensis* (Pic, 1900) (Figs. 1–5: G) 산각시하늘소(눈박이각시꽃하늘소, 들각시하늘소, 아무르각시꽃하늘소)

Pseudopidonia amurensis Pic, 1900, Echange 17: 81–82 (U.S.S.R.: Maritime Territory).

Pseudopidonia unifasciata Piviltshikov, 1915, Ent. Vyustn. 2: 106.

Pidonia (*Pidonia*) *quelpartensis* Hayashi, 1983, Bull. Osaka Jon. Wom. Jun. Coll. 16: 32–34. syn. nov.

Male. Body elongate; general coloration of head black; mouth parts reddish fulvous; antennae yellowish brown, sometimes 3rd and the succeeding segments black apically; prothorax largely black, sometimes dark red or black with apical and basal portions dark red; scutellum largely black, sometimes testaceous or brownish black; elytra testaceous, with basal, sutural, latero-median, and posterior markings absent or indistinct; legs generally yellowish brown, sometimes hind femora black apically; ventral surface nearly black to dark red, sternites with apices sometimes yellowish brown. Head coarsely and closely punctate, furnished with short appressed pubescence; apical segments of maxillary palpi broadened distally and roundly truncate, minutely angulate at middle; labrum distinctly broader than length, obliquely subtruncate anteriorly and clothed with short hairs apically and long one basally; clypeus irregularly and sparsely punctate, with sparse long and short hairs; compound eyes moderately emarginate at middle of internal and external margins; tempora almost impunctate,

with several short setae, roundly narrowed posteriorly; antennae slender; apical portions of 10th segments exceeding beyond elytral apices; scape shorter than 4th; 3rd longer than 4th, and nearly subequal in length to 1st and 2nd combined together. Prothorax strongly narrowed apically lateral prominence gently rounded before base; disc with appressed hairs and close punctures. Scutellum triangular, with fine close punctures and thin short pubescence. Elytra about 2.6 times as long as basal width, gradually narrowed and obliquely truncate at apices; disc clothed with suberect pubescence, and close coarsely punctured; interspaces narrower than punctures; punctures gradually smaller posteriorly. Abdomen fine closely punctate with appressed pubescence; last sternite slightly notched apically; apex of last tergite roundly concave. Aedeagus curved ventrally, sharply pointed at apex; endophallus long; parameres, with apical lobes gradually roundly narrowed, and furnished with long hairs.

Female. Body more robust than in male; mouth parts blackish to fulvous; antennae brownish black or yellowish brown, with 3rd and the succeeding segments blackish apically; elytra with black markings broadly developed, in general all markings continued one another, but sutural vitta always divided into latro-median markings; legs largely blackish except for basal portions of femora which are yellowish brown. Head including eyes slightly narrower than prothorax; antennae scarcely reaching to elytral apices. Elytra 2.3 times as long as basal width, parallel-sided. Last sternite subroundly produced at apex; last tergite gently truncate with very shallow emargination at middle. Spermatheca abruptly narrowed at middle; vagina enlarged basally; stylus slightly narrowed basally, with terminal setae.

Overall length. Male 7.0–11.0mm, female 8.0–1.0mm.

Material examined. CN: Mt. Kyeryong-san, 9♂, 6♀, 23–24.V.1989, S. An; GB: 10♂ & 4♀, Mt. Chuhul-san, 5.VI.1983, S. Lee; 1♂, Mt. Chuwang-san, 8.VI.1991, Y. Kwon; 1♀, Mt. P'algong-san, 24.V.1968, S. Lee; 1♂ & 7♀, same locality, 23–24.V.1981, Y. Kwon; 1♀, 27.V.1981; 3♀, 24.V.1981; 3♀, 24.V.1983; 10♀, 26.V.1985; 5♂ & 3♀, 28–29.V.1985; 1♀, 18.VI.1985, all same locality & collector; 1♂, Mt. Sobaek-san, 28.VI.1978, S. Lee; 19♂ & 22♀, 4–5.VI.1981; 2♂ & 1♀, 18.VI.1984, all same locality & collector; 2♂, Mt. Sudo-san, 27.VII.1979, S. Lee; 13♂ & 8♀, Mt. Unmun-san, 19.V.1985, Y. Kwon, 4♂ & 3♀, 21.V.1981, same locality & collector; GG: 1♀, Mt. Ch'önma-san, 4.VI.1968, S. Lee; 1♀, 28.V.1970; 1♂ & 1♀ 21.V.1978, all same locality & collector; 1♂, Kwangnŭng, 30.V.1968, S. Lee; 1♂ & 1♀, 21.V.1972, same locality & collector; 2♂, Mt. Myöngji-san, 27.V.1978, S. Lee; 9♂ & 12♀, Mt. Pukhan-san, 29.V.1983, S. Lee; 25♂ & 1♀, 2.VI.1989, S. An; 1♂, Mt. Soyo-san, 21.V.1989, S. An; 1♀, Mt. Suri-san, 20.V.1975, K.Y. Choi; 2♂ & 2♀, Mt. Tobong-san, 21.V.1989, S. An; 2♂ & 2♀, Mt. Un'gil-san, 22.V.1983, S. Lee; 1♀, Mt. Yongmun-san, 26.V.1968, S. Lee; GN: 1♂ & 1♀, Mt. Chiri-san, 27–28.V.1976, S. Lee; 1♂ & 1♀, same locality, 7.VI.1984, Y. Kwon; 3♂, same locality, 27.V.1989, S. An; 1♀, Mt. Kaji-san, 21.V.1980, Y. Kwon; 1♂, 10.V.1981, same locality & collector; 1♀, Mt. Kaya-san, 18.V.1981, S. Lee; 1♂, Mt. Yöngch'wi-san, 24.V.1980, Y. Kwon; GW: 3♂ & 6♀, Mt. Ch'iak-san, 21.V.1979, S. Lee; 1♂, Mt. Kariwang-san, 2.VI.1991, Y. Kwon; 1♀, Mt. Obong-san, 12.V.1985, Y. Kwon; 1♂, Mt. Sörak-san, 13.VI.1970, S. Lee; 1♂ & 1♀, 18.VI.1970; 1♀, 25.VI.1970; 2♂, 25–26.VI.1973; 2♂ & 2♀, 16–17.VI.1978; 1♂ & 2♀, 19.VI.1978; 1♀, 19.VI.1980; 1♂ & 1♀, 30.V.1981; 43♂ & 20♀,

1-2.VI.1981; 29-30.VII.1982; 1♂, 21.VI.1984, all same locality & collector; 1♂, same locality, 27.VI.1982, Y. Kwon; 1♂, 29.VI.1982; 2♂ & 2♀, 29-30.VI.1984; 2♂ & 2♀, 23.V.1989, all same locality & collector; 3♂ & 8♀, same locality, 1.VI.1986, S. An; 1♀, Mt. Sokūmgang-san, 24.V.1984, K. Park; 1♀, Mt. T'aebaek-san, 16.VI.1974, S. Lee; 10♂ & 5♀, 26-28.VI.1976; 23♂ & 5♀, 18-19.VI.1983, all same locality & collector; 1♀, Ch'ölwŏn, 15.V.1983, S. Lee; JB: 1♂, Mt. Naejang-san, 13.V.1989, Y. Kwon; 1♂ & 1♀, Mt. Tögyu-san, 28.V.1991, Y. Kwon; JJ: 3♂ & 2♀, Mt. Halla-san, 26-27.VI.1981, S. Lee; 2♂, 29.VI.1981, same locality & collector.

Distribution. Korea (North, Central, South, Chejudo), China (Heilongjiang, Jilin, Shensi), U.S.S.R. (Maritime Territory).

Host plant. Unknown; flower record-*Acer*, *Magnolia*, *Stephanandra incisa*, *Viburnum*.

Remarks. We could not able to check the type material of *P. quelpartensis*, though we asked for the author. Judging from the original description and the material collected in the same area, this species should be only an intraspecific variation of *amurensis*, of which elytral sutural vitta is lacking and male genitalia is identical.

6. *Pidonia* (*Pidonia*) *elegans* sp. nov. (Figs. 1-5: D) 멧쟁이각시하늘소 (신칭)

Male. Body elongate; general coloration of head and prothorax black; mouth parts brownish yellow; antennae yellowish brown, 3rd and the succeeding segments largely black apically; scutellum reddish black or black; elytra testaceous with black markings; basal marking present, distinctly visible from above, sutural marking narrowly fused to basal and apical markings, latero-basal markings elongate longitudinally, latero-median markings small, latero-posterior markings transversely continued to sutural markings, apical markings broadly transverse at apex; legs generally yellowish brown; ventral surface nearly black, with mesosternum fulvous basally. Head coarse closely punctate, covered with short appressed pubescence; apical segments of maxillary palpi gradually broadened apically and roundly truncate at apices. Labrum clothed with short pubescence apically and long one basally; clypeus coarsely punctate, with sparse long and short hairs; compound eyes gradually narrowed posteriorly, and moderately emarginate near middle of internal margins, external tempora nearly impunctate with several short setae; antennae slender, terminal segments exceeding beyond elytral apices; scape shorter than 4th; 3rd segment nearly as long as 1st and 2nd combined. Prothorax strongly narrowed at apex; lateral sides bluntly expanded before middle; width across lateral prominence slightly broader than base; disc without longitudinal keel, and deeply punctate, with appressed pubescence; prosternum transversely rugged with sparse appressed pubescence; meso- and metasterna closely punctate, with appressed pubescence. Scutellum triangular, subroundly produced at apex; disc closely punctate, with fine suberect pubescence. Elytra about 2.9 times as long as basal width, gradually narrowed distally; apices obliquely truncate; disc close deeply punctate, clothed with suberect pubescence; punctures gradually smaller distally. Legs slender, with short recumbent pubescence; hind femora not reaching to elytral apices; tibiae long, with a pair of spurs at apices; 3rd hind tarsi strongly dilated apically, and deeply notched at middle of apex. Abdomen closely punctate, with suberect pubescence; apex of last sternite shallowly emarginate at middle; apex of

last tergite broad moderately emarginate at center. Aedeagus curved ventrally, strongly narrowed and pointed apically; parameres with apical lobes narrowed distally, and clothed with long hairs.

Female. Body more robust than in male; mouth parts dark brown; antennae black; scutellum black; elytral black markings broadly developed, largely all markings continued each other; legs mostly black except for basal portions of femora which are yellowish brown. Head including eyes about as broad as prothorax; antennae not reaching to elytral apices. Elytra 2.5 times as long as basal width, parallel-sided. Last sternite gently rounded; apex of last tergite subrounded with slight emargination at middle. Spermatheca strongly narrowed apically; vagina enlarged basally; stylus elongate, with several setae at apices; vulva not reaching to basal segmental apex of coxite.

Overall length. Male 7.0–10.5mm, female 7.0–10.0mm.

Material examined. Holotype ♂, Mt. Chiri-san, GN, Korea, 27.V.1989, Y. Kwon; paratypes: 2♂, same data as holotype; 1♂ & 1♀, 7.VI.1984, same locality & collector; 4♂, Mt. Sörak-san, GW, Korea, 18.VI.1978, S. Lee; 3♂, 19.VI.1978; 1♂ & 1♀, 1.VI.1981, all same locality & collector; 1♂, 1.VI.1986, S. An; 2♂, Mt. Sudo-san, GB, Korea, 27.VII.1979, S. Lee; 1♂, Mt. Sobaek-san, GB, Korea, 5.VI.1981, S. Lee.

Distribution. Korea (Central, South).

Host plant. Unknown.

Remarks. This new species is closely related to *amurensis*, but differs from the latter in having the apex of last tergite which is broadly emarginate, and the aedeagus being sharply narrowed apically. Also differs from *signifera*, in having parameres elongate, and the apex of last sternite being shallowly emarginate at middle.

7. *Pidonia (Pidonia) gibbicollis* (Blessig, 1872) (Figs. 1-5: J) 줄각시하늘소(세줄박이각시꽃하늘소)

Leptura (Anoplodera) gibbicollis Blessig, 1872, Hor. Soc. Ent. Ross. 9: 258 (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head black, with mouth parts yellowish brown; antennae yellowish brown, sometimes 3rd and the succeeding segments black apically; prothorax black, sometimes blackish red or black, with apical basal portions reddish brown; scutellum black; elytra yellowish brown with lateral black stripes on suture; legs largely yellowish brown, sometimes metafemora black apically; ventral surface black, sometimes abdomen black to reddish black. Head coarsely punctate, clothed with short appressed pubescence; apical segments of maxillary palpi broadened at apices which are subroundly truncate; labrum obliquely subtruncate anteriorly, and covered with short hairs apically and long one basally; clypeus coarsely and sparsely punctate, with short and long hairs; compound eyes moderately emarginate at middle of internal and external margins; tempora nearly impunctate, with several short setae subparallel-sided; antennae extending beyond elytral apices; scape shorter than 4th; 3rd segment nearly as long as 1st and 2nd combined. Prothorax strongly narrowed apically, lateral sides subroundly expanded before middle; disc with or without a longitudinal carina at half, evenly punctured, with appressed pubescence. Scutellum triangular,

subrounded apically; disc fine closely punctate, with thin appressed hairs. Elytra about 2.7 times as long as basal width, distinctly narrowed distally, disc coarse irregularly punctate, with suberect pubescence; punctures gradually small apically. Legs slender; hind femora not reaching to elytral apices; tibiae slightly broad apically. Abdomen fine closely punctate, with dense pubescence; apex of last sternite shallow broadly emarginate at middle; last tergite subrounded apically. Aedeagus strongly curved ventrally, bluntly pointed at apex; parameres with apical lobes strong roundly narrowed apically, and clothed with long hairs.

Female. Body more robust than in male; antennae sometimes dark brown; elytra with black markings broadly developed; mid and hind femora black apically. Head including eyes narrower than prothorax; antennae far shorter than body. Prothorax nearly as long as broad. Elytra 2.5 times as long as basal width, parallel-sided. Last sternite subroundly produced apically; last tergite subrounded laterally, subtruncate apically. Spermatheca sclerotized; vagina enlarged basally; stylus very small; apical segment of coxite bluntly pointed apically.

Overall length. Male 7.0–11.5mm, female 8.5–13.0mm.

Material examined. CB: 1♂, Mt. Wörak-san, 13.VII.1983; GB: 3♂, Mt. Chuhül-san, 5.VI.1983, S. Lee; 2♂, Mt. P'algong-san, 26.V.1985, Y. Kwon; 8♂, Mt. Sobaek-san, 4–5.VI.1981, S. Lee; 1♂, Mt. Unmun-san, 21.V.1991, Y. Kwon; GG: 3♂, Mt. Ch'önma-san, 16.VI.1985, S. Lee; 5♂ & 3♀, Mt. Kwangnüng-san, 30.V.1968, S. Lee; 1♂ & 1♀, Mt. Myöngji-san, 26–27.V.1978, S. Lee; 1♂ & 1♀, Mt. Myöngsöng-san, 16.V.1982, S. Lee; 4♂ & 1♀, Mt. Pukhan-san, 29.V.1983, S. Lee; 2♂, same locality, 21.VI.1989, S. An; 3♂, Mt. Soyo-san, 16.VI.1985, S. Lee; 1♂, Mt. Tobong-san, 21.V.1989, S. An; 2♂ & 4♀, Mt. Unak-san, 6.VI.1985, S. Lee; 1♂ & 1♀, Mt. Un'gil-san, 22.V.1983, S. Lee; 1♀, Mt. Wangbang-san, 14.VI.1985, S. Lee; GN: 1♂ Mt. Chiri-san, 27.V.1989, S. An; GW: 1♂, Mt. Ch'iaek-san, 1.VI.1974, S. Lee; 1♂, 21.V.1979, same locality & collector; 2♂, Kariwang-san, 2.VI.1991, Y. Kwon; 6♂ & 1♀, Mt. Kyebang-san, 31.V.1991, Y. Kwon; 3♂, Sabuk Myön, 15.V.1985, S. Lee; 1♂, Obong-san, 21.V.1982, Y. Kwon; 5♂ & 4♀, Mt. Sörak-san, 17.VI.1970, S. Lee; 1♂, 20.VI.1978; 1♂, 26.VI.1978; 2♂, 18–19.VI.1989; 1♂ & 1♀, 22–23.VI.1980; 1♂, 30.V.1981; 3♂ & 2♀, 1.VI.1981; 1♂, 30.VII.1982, all same locality & collector; 1♀, same locality, 29.VII.1982, Y. Kwon; 15♂ & 2♀, same locality, 1.VI.1986, S. An; 1♂ & 1♀, Mt. T'aebaek-san, 16.VIII.1974, S. Lee; 44♂ & 20♀, 26–28.VI.1976; 7♂ 5♀, 18–19.VI.1983, all same locality & collector; 1♂, Taegwallyöng, 16.VI.1973, J. Park; JB: 1♂, Mt. Tögyu-san, 28.V.1991, Y. Kwon.

Distribution. Korea (North, Central, South, Chejudo), China (Heilongjiang, Jilin), Japan (Tsushima), U.S.S.R. (Maritime Territory).

Host plant. Unknown; flower recored-*Magnolia*, *Stephanandra incisa*.

8. *Pidonia* (*Pidonia*) *koreana* sp. nov. (Figs. 1-5: E) 우리각시하늘소 (신칭)

Male. Body elongate; general coloration of head black; mouth parts and legs yellowish brown; antennae yellowish brown, 5th and the succeeding segments black apically, the black portions gradually enlarged apically; prothorax reddish black to black, with basal and apical portions reddish brown; scutellum reddish black; elytra testaceous with black markings, basal marking indistinct, hu-

meral marking absent, sutural and sublateral marking moderately subparallel, and terminated at apical portions, apical marking small; ventral surface black. Head coarsely and deeply punctate, furnished with short appressed pubescence; apical segments of maxillary palpi broad distally and obliquely truncate; labrum sparsely and finely punctate, with long and short pubescence; clypeus coarse and sparsely punctate with pubescence; compound eyes moderately emarginate at middle of internal margins; tempora nearly impunctate with several short setae, gradually narrowed to 2/3 of posterior areas, and strongly constricted behind them; antennae slender, terminal segments exceeding beyond elytral apices; scape slightly shorter than 4th; 3rd segments slightly longer than 1st and 2nd combined. Prothorax strongly narrowed apically; lateral sides subroundly expanded at middle; apical and basal margins bisinuate; disc strongly convex, evenly punctate with appressed pubescence; postero-lateral sides clothed with long setae; prosternum transversely rugged with sparse pubescence; meso- and metasterna finely punctate, and clothed with short appressed pubescence. Scutellum triangular, bluntly pointed apically; disc finely punctate, with thin and short pubescence. Elytra about 2.2 times as long as basal width, gradually narrowed distally, subroundly truncate apically; disc coarsely punctate, with sparse suberect hairs; puncture gradually smaller distally. Legs relatively slender; apices of hind femora not reaching elytral apices; 3rd hind tarsi strongly dilated apically, deeply notched at middle of apex. Abdomen fine closely punctate, with dense appressed hairs; last sternite triangularly notched apically, and broad roundly emarginated latero-apically; last tergite relatively round, with broad emargination at apex. Aedeagus strongly curved ventrally, and bluntly pointed at apex; parameres slightly shorter than aedeagus, apical lobes elongate, and subroundly narrowed to apices, with short hairs.

Overall length. Male 8.5–10.0mm.

Material examined. Holotype ♂, Mt. Halla-san, JJ, Korea, 26.VI.1981, S. Lee; paratypes; 3♂, same data as holotype.

Distribution. Korea (Chejudo).

Host plant. Unknown.

Remarks. This new species closely resembles *alpina* sp. nov. but may be easily distinguished from the latter by the pronotum which is rather strongly convex, and by the apical portion of aedeagus in being less curved ventrally and bluntly pointed.

9. *Pidonia (Pidonia) longipennis* sp. nov. (Figs. 1–5: H) 긴각시하늘소 (신칭)

Male. Body elongate; general coloration of head, prothorax and scutellum black; mouth parts yellowish brown; elytra testaceous with black markings; basal band and humeral marking absent, sutural vitta slightly narrowed posteriorly, and terminated at subapices, latero-basal marking, latero-medial and latero-posterior fused to each other and terminated at subapical area, apical marking absent or indistinct; legs largely fulvous, sometimes apical portions of hind femora dark brown; ventral surfaces black. Head coarsely and deeply punctate, and sparsely clothed with thin appressed pubescence; last segments of maxillary palpi gradually broadened and truncate apically; labrum sparsely punctate, with short pubescence at apex and long one at subbase; clypeus coarse sparsely punctate,

with short and long hairs; compound eyes narrowed posteriorly, with emarginations near middle of internal margins; tempora nearly impunctate with several setae, roundly narrowed to neck; antennae long, terminal segments exceeding beyond elytral apices; scape slightly shorter than 4th, 3rd segments nearly as long as 1st and 2nd united together. Prothorax strongly narrowed at apex; lateral sides bluntly expanded before middle; width across lateral prominence slightly broader than base; disc convex without longitudinal keel, and coarse deeply punctate with appressed pubescence; prosternum transversely rugged with sparse suberect hairs; meso- and metasterna closely punctate, with appressed pubescence. Scutellum triangular, blunt apically; disc punctate, with thin and suberect pubescence. Elytra about 2.7 times as long as width, gradually narrowed distally, and rounded at apices; disc coarse sparsely punctate, with suberect hairs; punctures gradually smaller apically. Legs relatively long; apices of femora not reaching to elytral apices; tibiae slightly broadened posteriorly, with subequal spurs. Abdomen coarsely punctate, with dense appressed hairs; apex of last sternite shallowly emarginate at apex; last tergite broad shallowly emarginate at apex. Aedeagus curved ventrally, gradually narrowed apically; parameres with apical lobes slightly narrowed posteriorly, and subrounded at apices with long hairs.

Female. Body broader than in male. Head slightly narrower than prothorax; antennae relatively short, slightly extending beyond sublateral markings on elytra. Elytra 2.3 times as long as basal width, parallel-sided. Last sternite gently subrounded at apex; last tergite subrounded, with shallow emargination at middle. Spermatheca subroundly narrowed basally and apically, enlarged medially; vagina enlarged basally; stylus elongate, with several setae; vulva not reaching to basal segmental apex of coxite.

Overall length. Male 8.0–12.0mm, female 10.0–12.5mm.

Material examined. Holotype ♂, Mt. Sörak-san, GW, Korea, 29.VI.1984, Y. Kwon; paratypes; 2♂, same data as holotype; 3♂ & 5♀, 30.VI.1984, same locality and collector; 2♂, same locality, 19.VI.1978, S. Lee; 1♂ & 1♀, Mt. T'aebaek-san, GW, Korea, 26.VI.1976, S. Lee; 1♂, 28.VI.1976; 1♂, 19.VI.1983, all same locality & collector.

Distribution. Korea (Central).

Host plant. Unknown.

Remarks. The present new species is somewhat allied to *gibbicollis*, but differs from the latter in having pronotum not conspicuously raised longitudinally along middle of disc, and aedeagus which is slender. Also differs from *seungmoi* sp. nov. in having aedeagus not strongly curved ventrally and gradually narrowed apically, apex of sternite gently truncate, and apex of tergite broad shallowly emarginate at middle.

10. *Pidonia* (*Pidonia*) *seungmoi* sp. nov. (Figs. 1-5: K) 승모각시하늘소(신칭)

Male. Body elongate; general coloration of head black; mouth parts yellowish brown, sometimes fulvous; apical segments of maxillary palpi fulvous; antennae yellowish brown, 3rd and the succeeding segments black apically; prothorax largely black, sometimes reddish brown with discal portions black; scutellum black, sometimes dark reddish black; elytra testaceous with black mark-

ings, basal marking distinct, humeral markings fused to basal marking, latero-basal, latero-median, and latero-posterior markings forming a well developed sublateral vitta, sutural vitta paralleled, and terminated behind scutellum and before apical areas, apical marking small; legs yellowish brown, with hind femora pitchy apically; ventral surface black. Head coarsely and deeply punctate, sparsely furnished with short appressed pubescence; last segments of maxillary palpi gradually broadened apically, and subroundly truncate at apices; labrum coarse sparsely punctate, with short pubescence at apex, and long ones at base; clypeus close coarsely punctate with short and long hairs, punctures broader than interspace; compound eyes strongly emarginate behind middle of internal margins; tempora nearly impunctate with several setae, subroundly narrowed to neck; antennae long, terminal segments beyond elytral apices; scape shorter than 4th segments; 3rd segments nearly as long as 1st and 2nd united together. Prothorax strongly narrowed at apex; lateral sides gently expanded before middle; width across lateral prominence about as long as base; disc moderately convex coarsely punctate with appressed hairs; prosternum transversely rugged, with suberect pubescence; meso- and metasterna fine closely punctate, with appressed pubescence. Scutellum triangular, subtruncate at apex; disc finely punctate, with thin and short pubescence. Elytra about 2.7 times as long as basal width, gradually narrowed distally, and subroundly truncate at apices; disc coarsely punctate, with sparse suberect hairs; punctures gradually smaller apically. Legs relatively slender; apices of hind femora not reaching to elytral apices; 3rd tarsal segments strongly dilate apically, and deeply notched at middle of apex. Abdomen fine closely punctate, with densely appressed hairs; last sternite shallowly emarginate at apex, and broadly emarginate at latero-apical portions; last tergite subtruncate at apex. Aedeagus strongly curved ventrally, slightly narrowed and pointed apically; parameres with apical lobes parallel-sided and subrounded at apices, furnished with long hairs.

Female. Body slightly broader than in male. Head slightly narrower than prothorax; antennae rarely reaching to elytral apices. Elytra 2.6 times as long as basal width, nearly parallel-side. Abdomen relatively slender; last sternite well developed and subrounded apically; last tergite subroundly truncate. Spermatheca subroundly slightly narrowed basally, and strikingly narrowed apically; vagina enlarged basally; stylus narrowly elongate with several setae; vulva not reaching to basal segmental apex of coxite.

Overall length. Male 10.5–12.5mm, female 11.0–13.5mm.

Material examined. Holotype ♂, Mt. Sörak-san, GW, Korea, 18.VI.1978, S. Lee; paratypes; 1♂, 6.VII.1971; 2♂, 2.VII.1973; 51♂ & 16♀, 18–19.VI.1978; 2♂ & 2♀, 29.VII.1982; 1♂, 30.VII.1982, all same locality & collector as holotype; 5♂ & 2♀, same locality, 30.VI.1984, Y. Kwon.

Distribution. Korea (Central).

Host plant. Unknown.

Remarks. The present new species is allied to *gibbicollis*, but differs from the latter in having the elytra broadly banded with black marking at base, the prothorax more or less globular, the aedeagus more broader apically and stout in general, and the parameres parallel-sided apically.

11. *Pidonia* (*Pidonia*) *similis* (Kraatz, 1879) (Figs. 1–5: I) 산줄각시하늘소(각시하늘소, 점박이 각시꽃하늘소, 줄박이각시꽃하늘소)

Grammoptera similis Kraatz, 1879, Deutsch. Ent. Zeitschr. 23: 102 (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head orange, with black stripes on the inside areas of tempora; mouth parts yellowish brown except for apical portions of mandibles which are black; antennae yellowish brown, sometimes 5th and succeeding segments tinged with black apically; neck orange, with lateral black stripes extending to the markings on tempora; prothorax orange, with round black markings laterally; scutellum orange with black markings at lateral margins; elytra usually yellowish brown, with latero-basal, subrounded latero-median and elongate latero-posterior black markings; legs yellowish brown, sometimes hind femur black apically; abdomen yellowish brown; 1st and 2nd sternites black. Head with appressed pubescence; last segment of maxillary palpi broadened apically, and subroundly truncate at apices; labrum sparsely and finely punctate, anterior area densely clothed with short pubescence, posterior area covered with long pubescence; clypeus dense and coarsely punctate, with long pubescence, interspace narrower than punctures, broadly subtruncate anteriorly; compound eyes more or less emarginate; tempora almost impunctate and shining with few setae, gradually narrowed posteriorly and abruptly constricted at 3/4 of posterior portion; antennae slender, apical 2 segments exceeding beyond elytral apices, scape finely punctate with dense appressed pubescence, 3rd segments slightly longer than 1st and 2nd united together, 4th slightly shorter than 6th. Prothorax strongly narrowed at apex; pronotum not distinctly raised along median line, somewhat globular; sides gently prominent at middle; basal margin bisinuate; disc strongly and densely punctate, clothed with somewhat long appressed pubescence; lateral portion of base with a few long hairs. Scutellum slightly longer than basal width, subroundly truncate apically; surface densely punctate, with appressed pubescence shorter than elytral one. Elytra about 2.8 times as long as basal width; apices obliquely truncate; disc covered with sparse and suberect pubescence, having coarse and strong punctures gradually small distally, punctures smaller than interspace. Legs moderately slender, covered with short suberect pubescence; spurs of tibiae subequal in length; hind femora slightly exceeding beyond elytral apices. Abdomen closely and finely punctate, moderately covered with appressed pubescence; last sternite with apical margin roundly emarginate, disc concave postero-medially; last tergite gently rounded apically. Aedeagus usually slender; more or less strongly curved ventrally, and blunt apically; parameres with, apices somewhat elongately produced apically, with sparse long terminal hairs.

Female. Body more robust than in male; abdomen entirely testaceous. Head slightly narrower than prothorax; antennae with terminal segments slightly extending beyond elytral apices; 4th segments subequal to 6th in length. Elytra 2.3 times as long as basal width, parallel-sided. Hind femora reaching to elytral apices. Last tergite subtruncate apically; last sternite produced roundly. Spermatheca enlarged at middle, narrowed basally and apically; bursa copulatrix narrowed apically; baculum nearly parallel-sided; stylus slender, with sparse hairs at terminal portions.

Overall length. Male 10.5–12.0mm, female 11.0–13.5mm.

Material examined. GB: 1♂, Mt. Sobaek-san, 5.VI.1981, S. Lee; GW: 1♂, Mt. Odae-san, 9.VII.1976, S. Lee; 1♂, Mt. Sörak-san, 19.VI.1970, S. Lee; 1♀, same locality, 29.VI.1984, Y. Kwon; 5♂ & 5♀, Mt. T'aebaek-san, 26–28.VI.1976, S. Lee; 6♂ & 2♀, 18–19.VI.1983, same locality & col-

lector; 1 ♀, Taegwallyŏng, 13.VI.1973, K.Y. Choi; 1 ♀, Yongdaeri, 25.VI.1982, S. Lee.

Distribution. Korea (North, Central, South), China (Jilin), U.S.S.R. (Maritime Territory).

Host plant. *Salix* (cf. Pu, 1980).

Remarks. This species was first recorded from 'Yodai' (Matsushita, 1937) in Korea, which is uncertain in the present administrative geographical name. Often, previous works have mistakenly treated this species identical with *maculithorax*, of which occurrence is restricted to Japan at present. After comparative examination of material including Chinese *similis* (1 ♂ & 1 ♀, Yapuloni, Manchuria, ? .VII.1939) and Japanese *maculithorax* (1 ♂, Suganuma, Gunma Pref., 1.VIII.1968; 1 ♀, same locality, 28.VII.1976; 1 male, Oku-Nikko, Gunma Pref., 13–21.VII.1970; 1 ♀, Sinmasima, Nagano Pref., 22–26.VII.1974), it was confirmed that Korean specimens belonged to *similis*.

12. *Pidonia* (*Pidonia*) *suvorovi* Baeckmann, 1903 (Figs. 1–5: F) 북방각시하늘소(스보로브각시꽃하늘소)

Pidonia suvorovi Baeckmann, 1903, Rev. Russ. Ent. 3: 115 (U.S.S.R.: Maritime Territory).

Male. Body elongate; general coloration of head, prothorax and scutellum entirely black; mouth parts fulvous; antennae yellowish brown; elytra entirely blackish brown; legs fulvous except for femoral apices which are black; ventral surface entirely black. Head including eyes slightly narrower than prothorax, coarsely punctate with a faint median line, and covered with short appressed pubescence; apical segments of maxillary palpi gradually broadened apically and obliquely truncate at apices; labrum sparsely punctate, with short pubescence at apex and long one at base; clypeus sparse deeply punctate with pubescence; compound eyes gradually narrowed posteriorly, moderately emarginate near middle of internal margins; tempora nearly impunctate, with several short setae, gradually narrowed posteriorly; antennae slender, terminal segments slightly extending beyond elytral apices; scape shorter than 4th segments; 2nd segments broader than long; 3rd segments slightly longer than 1st and 2nd combined. Prothorax slightly broader than long; strongly narrowed at apex, lateral sides roundly expanded before middle; disc convex, with longitudinal keel, and coarse closely punctate with appressed pubescence; prosternum transversely strongly rugged, with sparse appressed pubescence; meso- and metasterna closely punctate, with appressed pubescence. Scutellum subroundly produced at apex; disc finely punctate with fine suberect pubescence. Elytra about 2.6 times as long as basal width, gradually narrowed posteriorly; apices gently subrounded; disc coarse closely punctate, clothed with suberect pubescence; punctures gradually smaller distally. Legs rather stout; hind femora not reaching to elytral apices; hind meta tarsi longer than 2nd and 3rd united together. Abdomen close coarsely punctate, with suberect pubescence; apex of last sternite concave medially and subtruncate, with shallow emargination; apex of last tergite broadly emarginate medially. Aedeagus curved ventrally and bluntly pointed apically; parameres with apical lobes gradually narrowed apically, furnished with long hairs.

Female. Body more robust than in male; antennae dark brown; legs black. Antennae shorter than body; 2nd longer than broad. Elytra about 2.4 times as long as basal width, parallel-sided; apices slightly truncate. Last sternite bluntly pointed, last tergite gently subrounded. Spermatheca

abruptly narrowed and bent distally; vagina enlarged apically; stylus narrowly elongate, with several setae at apices; vulva not reaching to basal segmental apex of coxite.

Overall length. Male 8.5–1.0mm, female 10.5–12.0mm.

Material examined. GW: 1♂, Hyangnobong, 16.VI.1968, S. Lee; 2♀, Mt. Sörak-san, 18.VI.1978, S. Lee.

Distribution. Korea (North, Central), U.S.S.R. (Maritime Territory).

Host plant. *Larix olgensis* (cf. Kojima, 1948), *Larix olgensis* var. *koreana* (cf. Cho, 1959; For. Res. Inst., 1969; Hayashi, 1969, 1972).

13. *Pidonia* (*Pidonia*) *weolseoe* sp. nov. (Figs. 1-5: M) 월서각시하늘소 (신칭)

Male. Body elongate; general coloration of head and prothorax black; mouth parts orange to yellowish brown, with apical segments of maxillary palpi black; antennae yellowish brown, 3rd and the succeeding antennal segments blackish apically, the black portions gradually enlarged apically; scutellum largely black, sometimes fulvous; elytra testaceous with black markings; basal marking absent, sutural vitta gradually narrowed apically and terminated at apical areas, humeral markings, latero-basal, latero-median and latero-apical markings fused with each other, and formed a well developed submarginal fascia; apical band discontinued to sublateral vitta; legs entirely brownish yellow; ventral surface black. Head coarsely and deeply punctate, sparsely clothed with appressed pubescence; last segments of maxillary palpi gradually broadened apically, and obliquely truncate at apices; labrum sparsely punctate, with short pubescence apically and long basally; clypeus coarsely punctate, with short and long pubescence; compound eyes strongly emarginate behind middle of internal margins; tempora punctate with several setae, roundly narrowed to neck; antennae long; terminal segments exceeding beyond elytral apices; scape slightly shorter than 4th, 3rd segments nearly as long as 1st and 2nd combined. Prothorax nearly as long as broadest width, strongly narrowed at apex; lateral sides broadly expanded before middle; width across lateral prominence broader than base; disc strongly convex without longitudinal carina, and coarse closely punctate, with appressed pubescence denser than elytral one; prosternum transversely rugged, with sparse suberect hairs; meso- and metasterna fine closely punctate, with appressed pubescence. Scutellum triangular, bluntly pointed at apex; disc with thin and short pubescence. Elytra about 2.8 times as long as basal width, gradually narrowed distally, and subrounded at apices; disc coarsely punctate, with sparse suberect hairs; puncture gradually smaller apically. Legs relatively slender; apices of hind femora not reaching to elytral apices; 3rd tarsal segments strongly dilate apically and deeply notched at middle of apex. Abdomen fine closely punctate, with dense appressed hairs; last sternite shallowly emarginate at apex, and broadly emarginate at subapex; last tergite truncate at apex. Aedeagus curved ventrally, strongly narrowed and blunt apically; parameres with apical lobes gradually narrowed and subrounded, furnished with long hairs.

Female. Body more robust than in male; general coloration similar to the male except for apical portion of femora which are largely black. Head including eyes slightly narrower than prothorax; antennae not reaching to elytral apices. Elytra about 2.5 times as long as basal width, parallel-sided.

Last sternite subroundly produced apically; apex of last tergite gently rounded. Spermatheca greatly narrowed apically and strongly curved basally; vagina enlarged basally; stylus very narrowly elongate, with several setae apically; vulva nearly reaching to basal segmental apex of coxite.

Overall length. Male 10.5–12.5mm, female 11.0–14.5mm.

Material examined. Holotype ♂, Mt. T'aebaek-san, GW, Korea, 27.VI.1976, S. Lee; paratypes: 9♂ & 3♀, same data as holotype; 8♀, 26.VI.1976; 11♂ & 7♀, 18–19.VI.1983, all same locality & collector; 4♂, Mt. Sŏrak-san, GW, Korea, 30.VI.1984, Y. Kwon; 5♂, Mt. Sobaek-san, GB, Korea, 18.VI.1984, S. Lee.

Distribution. Korea (Central, South).

Host plant. Unknown.

Remarks. The present new species is closely related to *gibbicollis* and *seungmoi* sp. nov., but it differs from the latter in having lateral prominence of pronotum broader than base, prothorax nearly as long as broad and more swollen, and having aedeagus being strongly narrowed and bluntly pointed apically, and the apical lobes of parameres more or less stout.

REFERENCES

- Baekmann, J. 1903. Eine neue *Pidonia* Serv. aus dem Amur-Gebiet (Col., Ceramb.). Rev. Russ. Ent., 3: 115–116.
- Bates, H.W. 1884. Longicorn beetles of Japn. Additions, chiefly from the later collection of Mr. George Lewis; and notes on the synonym, distribution, and habits of the previously known species. Journ. Linn. Soc. Lond. Zool., 18: 212–216.
- Bates, H.W. 1888. On a collection of Coleoptera from Korea (Tribes Geodephaga, Lamellicornia, and Longicornia), made by Mr. J.H. Leech. F.Z.S. Proc. Zool. Soc. Lond.: 367–380.
- Blessig, G. 1872. Zur Kenntnis der Kaferfauna Süd-Ost-Sibiriens insbesondere des Amur-Landes. Longicornia. Hor. Soc. Ent. Ross., 9: 161–192.
- Cho, P.S. 1961. A taxonomical study on the longicorn beetles in Korea (Cerambycidae: Coleoptera). Journ. Nat. Ac. Sci. Rep. Kor., 3: 1–171, pls. 1–3 (In Korean).
- Cho, P.S. 1969. Cerambycidae. Ill. Encycl. Fauna Flora Kor., 10: 411–560, pls. 12–31, 75. (In Korean).
- Gressitt, J.L. 1951. Longicorn beetles of China. Longicornia, 2: 1–667, pls. 1–22.
- Hayashi, M. 1953. Studies on Cerambycidae from Japan and its adjacent regions (2). Ent. Rev. Jap. 6: 38–42, pl.8.
- Hayashi, M. 1968. A monographic study of the lepturine genus *Pidonia* Mulsant (1863) with special reference to the ecological distribution and phylogenetical relation (Coleoptera: Cerambycidae). Bull. Osaka Jon. Wom. Jun. Coll., 3: 1–61, pls.1–10.
- Hayashi, M. 1969. Ditto. part 2. Ibid. 4: 69–111.
- Hayashi, M. 1971. Ditto. part 3. Ibid. 6: 53–92, pls.1–17.
- Hayashi, M. 1972. Ditto. part 4. Ibid. 7: 57–94

- Hayashi, M. 1973. Some longicorn beetles from Korea (Col., Cerambycidae). Bull. Jap. Ent. Acad., 7: 23–26.
- Hayashi, M. 1983. Study of Asian Cerambycidae (Coleoptera) 5. Bull. Osaka Jon. Wom. Jun. Coll., 16: 29–44, pl.1.
- Hayashi, M. & A. Villiers. 1985. Revision of the Asian Lepturinae (Coleoptera: Cerambycidae) with special reference to the type specimen's inspection 1. Bull. Osaka. Jon. Wom. Jun. Coll., 19–20: 1–75, pls.1–15.
- Heryovsky, L. 1932. Zweiter Beitrag zur Verbreitung der paläarktischen Cerambyciden. Ent. Nachr., 6: 26–29.
- Heyrovsky, L. 1974. Cerambycidae (Coleoptera) aus Korea und Östsibirien. Fragm. Faun., 22: 29–36.
- Hua, L. 1982. A Check list of the longicorn beetles of China (Coleoptera: Cerambycidae). Zhongs. Univ. Guangzh. China. 158pp. (In Chinese).
- Imasaka, S. 1985. On the *Pidonia signifera* (Bates) (Coleoptera: Cerambycidae) from Tsushima, Nagasaki Pref. Gekk.-Mushi, 177: 16–18 (In Japanese).
- Kim, C.W. 1978. Distribution Atlas of insects of Korea. Series 2 Coleoptera. Kor. Univ. Press, Seoul, 414pp., 38pls (In Korean).
- Kim, J.I. & K.S. Chang. 1987. Insect fauna of the Mt. T'aebaek in Korea. Rep. Kor. Ass. Cons. Nat., 25: 91–120 (In Korean).
- Koike, H. 1971. A new species of Lepturine genus *Pidonia* Mulsant from Japan (Coleoptera: Cerambycidae). Ent. Rev. Jap., 23: 25–26, pl.1.
- Kraatz, G. 1879. Über die Bockkæfer Östsibiriens. Ent. Zeitschr. 23: 27–228.
- Kuboki, M. 1977. Two new species of the genus *Pidonia* (Coleoptera: Cerambycidae) from Japan. Kontyu 45: 264–270.
- Kuboki, M. 1978. A new species of the genus *Pidonia* from Shikoku, Japan (Coleoptera: Cerambycidae). Elytra, 6: 33–35.
- Kuboki, M. 1979. A taxonomic revision of the *puziloi* group of *Pidonia* (Coleoptera: Cerambycidae) in Japn. Kontyu, 47: 249–257.
- Kuboki, M. 1981. Study on the lepturine genus *Pidonia* Mulsant (Coleoptera: Cerambycidae), 1. Ibid. 49: 525–541.
- Kuboki, M. 1982. A taxonomic revision of the *alticollis* group of the genus *Pidonia* (Coleoptera: Cerambycidae) from Japan and its adjacent regions. Ibid. 50: 1–9.
- Kuboki, M. 1983. Taxonomy and distribution of the lepturine genus *Pidonia*. Nat. & Ins., 18 (2): 19–26, 33 (In Japanese).
- Kuboki, M. & K. Suzuki. 1978. A new species of the genus *Pidonia* (Coleoptera: Cerambycidae) from Honshu, Japan. Kontyu, 46: 297–301.
- Lee, S.M. 1979. A Synonymic list of longicorn beetles of Korea. Kor. Journ. Ent., 9: 29–83.
- Lee, S.M. 1982. Longicorn beetles of Korea (Coleoptera: Cerambycidae). Ins. Kor., 1: 1–101.
- Lee, S.M. 1987. The longicorn beetles of Korean peninsula. Nat. Sci. Mus., Seoul, 287pp.
- Matsushita, M. 1932. Über die im Japanischen Kaiserreich unbekannten Cerambyciden-Arten. Trans.

- Kans. Ent. Soc., 3: 63–66 (In Japanese).
- Matsushita, M. 1937. Zur Kenntnis der Japanischen Cerambyciden (2). Kontyu 11: 102–106.
- Mitono, T. 1940. 94. Cerambycidae. Cat. Col. Jap., 8: 22–28.
- Obika, M. & K. Kusama. 1971. A new species of the genus *Pidonia* (Coleoptera, Cerambycidae) from Japan. Ann. Zool. Jap., 44: 233–235.
- Ohbayashi, K. 1942. The behavior and distribution of Japanese longicorn beetles (4). Ins. World, 46: 16–20 (In Japanese).
- Ohbayashi, K. & M. Hayashi. 1957. Study of *Pidonia*-group (Col., Ceramb.), I. Ent. Rev. Jap., 8: 5–8, pl.2.
- Ohbayashi, K. & M. Hayashi. 1960. Ditto II. Ibid. 11: 13–16, pls.2–3.
- Okamoto, H. 1927. The longicorn beetles from Corea. Ins. Mats., 2: 62–86.
- Pic, M. 1902. Etude sur le groupe des Pidoniens. Mat. Long., 4: 20–27.
- Pic, M. 1931. Cerambycides paleartiques et prepaleartiques. Bull. Soc. Ent. France, 18: 257–259.
- Plavilstshikov, N.N. 1932a. Über einige Bockkafer von Korea und Sachalin (Col., Cerambycidae). Ibid. 6: 56–60.
- Plavilstshikov, N.N. 1932b. Lepturinen-Studien (Col., Ceram.) I. Cas. Csl. Spol. Ent., 29: 87–89.
- Plavilstshikov, N.N. 1936. Insectes Coleopteres, Cerambycidae 1. Faune URSS, 21: 1–611.
- Pu, P.J., 1980. Coleoptera: Cerambycidae (II). Econ. Ins. Fauna China, 19: 1–146, 12pls. (In Chinese).
- Saito, S. 1980. Two new Cerambycid beetles of the genus *Pidonia* Mulsant from Central Taiwan. Kontyu, 48: 291–298.
- Seki, M. 1938. One unrecorded species of longicorn beetles, with the locality of two longicorn species. Ins. World, 42(485): 4–7.
- Solsky, S. 1873. Zur Kenntnis der Kaferfauna Südost-Sibiriens, insbesondere des Amur-Landes, Longicornia. Hor. Soc. Ent. Ross., 9: 193–260, pls.7–8.
- Tamanuki, K. 1939. 14. Family Cerambycidae 1. Disteniinae, Lepturinae. Class Insecta Coleopteroidea-Coleoptera. Fauna Nipp., 10(8): 1–126 (In Japanese).
- Tamanuki, K. 1942. Ditto. 2. Lepturinae. Ibid. 10(8): 1–53 (In Japanese).
- Tsherepanov, A.Z. 1979. Cerambycidae of North Asia (Prioninae, Disteniinae, Lepturinae, Aseminae). Nauka, Novosibirsk, 471pp. (In Russian).
- Villiers, A. 1978. I. Cerambycidae. Faune France: 1–611.
- Villiers, A. 1980. Coleopteres Cerambycidae des Antilles Francaises. I. Parandrinae, Prioninae, Lepturinae. Ann., Soc. Ent. France, Nouv. Ser. 16: 133–157.

韓國産 각시하늘소屬의 分類
(딱정벌레目: 하늘소科)

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우리나라産 각시하늘소를 재검토한 결과, 총 3 아속 13종으로 밝혀졌다. 그중 *alpina*, *elegans*, *koreana*, *longipennis*, *seungmoi*, *weolseoe* 등 6 新種을 기재하였고, *P. quelpartensis* Hayashi, 1983는 *P. amurensis* (Pic, 1900)의 劣級同物異名으로 처리하였다.

또한, 각 分類群에 대한 檢索表를 작성하였고, 奇主 및 訪花植物 등을 정리하였다.

검색어: 分類, 딱정벌레目, 하늘소科, 각시하늘소속

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